

Date: Tue, 7 Dec 93 04:30:16 PST
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>
Errors-To: Ham-Digital-Errors@UCSD.Edu
Reply-To: Ham-Digital@UCSD.Edu
Precedence: Bulk
Subject: Ham-Digital Digest V93 #138
To: Ham-Digital

Ham-Digital Digest Tue, 7 Dec 93 Volume 93 : Issue 138

Today's Topics:

80+miles range radio (phone) equipment needed- any advice
ATM on Amateur Radio?
Busy on KPC-3
Questions on PacComm Micropower 2 TNC
TNC Software for Amiga
When will we get digital cellular?

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 6 Dec 93 19:01:54 GMT
From: ogicse!henson!netnews.nwnet.net!news.u.washington.edu!snowy!
yuri@network.ucsd.edu
Subject: 80+miles range radio (phone) equipment needed- any advice
To: ham-digital@ucsd.edu

Hi,
and sorry for (may be) wrong group. My frined doesn't have access to Internet,
but he wants to have radiophone with 80+ (100+) miles range.
He said, that it should be somathing like (or better than) "Tomahawk-8000".
We will appreciate any places to call/price ranges-ANY ADVICE.

Please reply directly- I don't read these groups lately.

INTERNET: yuri@atmos.washington.edu
UUCP: uw-beaver!atmos.washington.edu!yuri

Date: 3 Dec 1993 23:38:10 GMT
From: agate!howland.reston.ans.net!vixen.cso.uiuc.edu!qualcomm.com!
unix.ka9q.ampr.org!karn@ames.arpa
Subject: ATM on Amateur Radio?
To: ham-digital@ucsd.edu

In article <199311281802.KAA20528@ucsd.edu>, OSYSMAS@MVS.OAC.UCLA.EDU (Michael Stein) writes:

|> After reading Gigabit Networking by Craig Partridge, which
|> includes ATM as one of the topics in high speed networking, I'm
|> not convinced that ATM is even a good idea for fiber links.

Bingo. I was involved with early ATM back at Bellcore, and one of the reasons I left was disgust with what ATM had become. ATM had even polluted SMDS, the telcos' last chance at providing a decent metropolitan area connectionless packet data service. The telcos had proven again that they were mostly clueless about data above the physical transmission level.

|> ATM breaks packets up into cells, the idea being that an time
|> critical (voice or video) packet can't afford to be held back
|> because a long (4k bytes?) packet is being sent. So all packets
|> are broken into cells, which can then be sent as needed (critical
|> ones first).

|>
|> Well, it appears that this solves the problem. Only on a 1Gbit
|> link a 4K byte packets is only 32 microseconds long so the
|> problem doesn't really exist for this speed link!

Absolutely! But you must understand the real driving factor behind the design of ATM: voice. For all their lip service of "integrated" voice/data/video services and supporting the Information Age, voice is still the telcos' bread and butter, and it's the only thing they consider important. For example, the specific frame size chosen for ATM (48 bytes of data + 5 bytes of header) was picked to minimize the packetizing delay for conventional 64kb/s digital voice, so as to avoid having to use echo cancellers to take care of reflections off of the hybrids in the analog local loops at the ends of a voice call. (The degree to which people object to an echo of a given amplitude is a strong function of its delay -- the longer the delay, the more annoying it is). To be sure, this choice was more the fault of the Europeans than the Americans, who wanted a somewhat larger cell size.

Nevertheless, complaints from computer networking people that tiny, fixed-sized cells were not what they needed didn't seem to faze the

telcos.

|> Also my understanding is that currently all you can get today on
|> ATM is a permanent virtual circuit, no "dial up". It appears
|> that switched service is years away. And it's not clear how
|> (if?) ATM will handle multicast traffic.

A very common misconception about ATM, perhaps encouraged by the telcos themselves to sound more trendy, is that ATM is packet switching. It really isn't. First of all, ATM cells look nothing like, say, the Ethernet frames with which computer networking people are familiar: full source and destination addresses, followed by a variable length data field with a reasonably large size limit. And there's too little buffering in an ATM switch to make it a true packet network, where lots of little bursty users all contend for each link through a queue.

So to achieve a reasonably low lost-cell rate in ATM, you have to set up a circuit in advance and preallocate some fraction of link bandwidth. If it isn't used, it goes to waste. Think of ATM as just another TDM (time division multiplex) switch, albeit with somewhat finer-grained control over the bandwidth allocations that can be made. Other than that, ATM doesn't do much that can't already be done by a much simpler cross-connect switch at far lower cost.

|> Remember, ATM is brought to you by the same people who designed
|> ISDN as the answer to local telephone service. Will it follow
|> the same installation / availability / cost path?

Most likely, or even worse. ISDN's and ATM's "features" are worse than useless to anyone trying to build a real packet switched network like the Internet. Oh sure, you *can* use them, and people do when the tariffs are right. But all that added complexity buys you nothing over a bunch of leased lines. Hence they're worse than useless.

In the case of ISDN, I don't know anyone who uses it as anything but a leased line substitute between local packet routers. And this happens only when the telcos price ISDN far enough below their traditionally overpriced leased line services to make it worth dealing with ISDN's many added hassles. Of course, if the telcos were to price all their services according to their true costs, ISDN would immediately disappear and they'd have to admit their mistake.

Raw digital transmission, at least along major fiber routes, is the one thing the telcos know how to do well. Unfortunately, getting just that service out of them at a reasonable price is very difficult. Raw transmission isn't "glamorous" enough for the telcos, so they keep trying to "do it all" (e.g., move into information

services). Unfortunately, they don't even know how to properly
switch data, much less provide the complete stack including the
applications.

|> What does this have to do with Amateur Radio? Well, I've been
|> thinking about all the claims that there isn't enough spectrum to
|> do Gigabit networking via RF. Really? What about local and line
|> of sight links in the 24Ghz to 100Ghz range? Sounds hard (a
|> challenge) today, but doesn't sounds like it will remain so...

Well, IF we were to use ATM, then those claims about insufficient
spectrum would be true. If we don't, there shouldn't be a problem. :-)

Phil

Date: 6 Dec 93 14:58:51 GMT
From: news-mail-gateway@ucsd.edu
Subject: Busy on KPC-3
To: ham-digital@ucsd.edu

Friend of mine had that problem. Simple solution is to adjust the
USERS parm. probably set at 0. This restricts number of
"outside" users into TNC. Does not count you. make it whatever you
want.

ADMINISTRATIVE COMPUTING * Bitnet: cellis@brockvma
CARLTON ELLIS * Internet:
STATE UNIVERSITY OF NEW YORK * cellis@brockvma.cc.brockport.edu
COLLEGE AT BROCKPORT * -or-
350 NEW CAMPUS DRIVE * cellis@acspr1.acs.brockport.edu
BROCKPORT NY 14420-2924 * (716) 395-5153

Date: 6 Dec 93 04:41:32 GMT
From: ogicse!emory!europa.eng.gtefsd.com!howland.reston.ans.net!usc!phakt.usc.edu!
not-for-mail@network.ucsd.edu
Subject: Questions on PacComm Micropower 2 TNC
To: ham-digital@ucsd.edu

What are the differences between the Micropower 2 and the Tiny 2 TNC?
(I know the power consumption is lower on the Micropower 2) Does it come
with a 10MHz CPU? I notice this is an option available for the Tiny 2,
but is not listed for the Micropower.

Also, does anyone have the phone number for NX2P Electronics?

Thanks,

Robert Keenan, WU6L
keenan@usc.edu

Date: 6 Dec 93 14:30:12 GMT
From: news-mail-gateway@ucsd.edu
Subject: TNC Software for Amiga
To: ham-digital@ucsd.edu

Besides AmigaNOS for TCP/IP, the best packet software I have seen for the Amiga is AmiPac and it is available on wuarchive.wustl.edu and ucsd.edu for anonymous ftp'ing.

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Dan Roman Internet: roman@tix.timeplex.com (prefered address) //
ccMail: roman_d@timeplex.com GENie: D.ROMAN1@genie.geis.com \X/ Only AMIGA!

Date: 6 Dec 93 17:47:33 GMT
From: ogicse!emory!gatech!howland.reston.ans.net!spool.mu.edu!mixcom.com!
kevin.jessup@network.ucsd.edu
Subject: When will we get digital cellular?
To: ham-digital@ucsd.edu

I don't know where to post this, so I'll give this group a try.

I have been unable to get my wife to try for her technician class amateur radio licence. So, in the interest of some added security while she and my 4-year-old son are in the car, I am considering the purchase of a cellular phone.

I know that the current system is FDMA (frequency division multiple access) or "analog" cellular and is easily monitored. When will digital cellular become the norm? I've heard that 1994 is the introductory time frame for initial tests.

As I understand it, the digital system will use CDMA (code division multiple access) and ALL the channels in a single "cell" will be "spread" (as in spread-spectrum) over a range of 1.228 MHz. This is certainly NOT equivalent to the existing analog hardware that uses narrow-band FM transmission "channels" every 30 kHz.

Of course, the marketing slime at Ameritech Mobile here in Milwaukee say (and I'll quote them) that that system "won't be in place for years". They also said that "the engineering staff is having great difficulty getting the digital system to work" and that "the existing cellular phones will not be obsolete for a long time". Sounds like BS to me!

If the digital stuff will not be around for 3 or 4 years I can understand the investment in analog. But if digital cellular will be available in a year or two, I'd rather not spend the money.

So should I buy an "analog" cellular phone or not? Any opinions?
Thanks.

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End of Ham-Digital Digest V93 #138

